

Amendments to the Drawings:

The drawings have been replaced with new sheets of formal drawings that are not hand-drawn, as required by the Examiner.

In addition, Fig. 1 has been amended to add reference numeral 16, Fig. 10 has been amended to add reference numeral 66, and Fig. 15 has been amended to change reference numeral 74 to 72 so as to better accord with, for example, Fig. 14.

Attachments: Annotated Sheets Showing Changes for Figs. 1, 10, 15
Replacement Sheets for Figs. 1-18

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

THE SPECIFICATION

The specification has been amended to better accord with Figs. 4A, 4B and 7. No new matter has been added, and it is respectfully requested that the amendments to the specification be approved and entered.

THE DRAWINGS

The drawings have been replaced with new sheets of formal drawings that are not hand-drawn, as required by the Examiner.

In addition, Fig. 1 has been amended to add reference numeral 16, Fig. 10 has been amended to add reference numeral 66, and Fig. 15 has been amended to change reference numeral 74 to 72 so as to better accord with, for example, Fig. 14.

Submitted herewith are annotated sheets showing the changes made to Figs. 1, 10 and 15, and replacement sheets of formal drawings for Figs. 1-18.

No new matter has been added, and it is respectfully requested that the Examiner's objection to the drawings be withdrawn.

THE CLAIMS

Claim 1 has been amended to clarify the feature of the present invention whereby the ablation shield is provided as a member separate from the ablation device, as shown, for example, in Fig. 1.

In addition, claim 16 has been amended to clarify the feature of the present invention whereby treatment of the tumor requires multiple, sequential treatments and only a first partial area of the tumor that is treated by the ablation is marked, and whereby at least one subsequent treatment on the tumor is then performed based on the marked area of the tumor. See Figs. 5-7.

Still further, claim 19 has been amended to more clearly recite the feature of the present invention whereby each instrument is provided with the respective signature thereof in multiple signature types such that the same signature is visible using multiple imaging modalities, as supported by the disclosure in the specification at page 12. In this connection, it is respectfully pointed out that as recited in claim 18 each instrument may be provided with a different signature, such as a dashed area, or two dashed areas as shown in Figs. 8 and 9, so that the instruments are distinguishable while viewed using an imaging technique such as, for example, CT. And as recited in clarified amended claim 19, each instrument may have its same

signature repeated so as to be visible using multiple imaging modalities so that the signature of the instrument, such as having two dashed areas, is visible regardless of which one of a plurality of imaging modalities is used. Thus, while each instrument has a different signature as recited in claim 18, according to claim 19 each instrument has its own respective signature repeated in multiple signature types.

No new matter has been added, and it is respectfully requested that the amendments to claims 1, 16 and 19 be approved and entered.

It is respectfully submitted, moreover, that claim 19 is in full compliance with the requirements of 35 USC 112, second paragraph, and it is respectfully requested that the rejection thereunder be withdrawn.

THE PRIOR ART REJECTION

Claims 1, 2, 4-12 and 16-19 were rejected under 35 USC 102 as being anticipated by USP 6,575,969 ("Rittman"); claim 3 was rejected under 35 USC 103 as being obvious in view of the combination of Rittman and USP 5,928,229 ("Gough"); and claims 13-15 were rejected under 35 USC 103 as being obvious in view of the combination of Rittman and USP 5,800,540 ("Chin"). These rejections, however, are respectfully traversed with respect to the claims as amended hereinabove.

As recognized by the Examiner, Rittman discloses a system for isolating an ablation area that includes a bag 1116 that may be cooled to protect tissue from being subjected to too much heat during ablation.

It is respectfully pointed out, however, that according to Rittman, the bag 1116 and electrode 1117 are provided as parts of a same member that is inserted into the rectum of the patient.

According to the present invention as recited in amended independent claim 1, by contrast, the ablation shield is provided as a member separate from the ablation device. And it is respectfully pointed out that the use of an ablation shield as a separately inserted member in the manner of the claimed present invention allows the ablation shield to be placed at any side of the ablation source(s) of the ablation device at any desired angle. Thus, the ablation shield of the present invention as recited in amended independent claim 1 is not limited by the constraints of having the electrode and shield on the same member in the manner of Rittman.

It is respectfully submitted, moreover, that providing the ablation shield as a separate member from the ablation device would not have been an obvious modification of Rittman to one of ordinary skill in the art, since according to Rittman the cooled bag 1116 cools the tissue against which the electrode 1117 abuts, so as to protect wall 1115A and to define the kill isotherm 1121

(column 30, lines 27-35). In addition, in general, medical practitioners wish to minimize the number of needles inserted in the patient to reduce the risk of bleeding and other complications. Accordingly, it would not have been obvious to one of ordinary skill in the art to modify Rittman to provide the shield separately from any of the electrodes because of the desire to reduce needle insertions.

According to the present invention as recited in clarified amended claim 16, moreover, an area of the tumor treated by the ablation is marked, and at least one subsequent treatment on the tumor based on the marked area of the tumor. See Figs. 5-7. With this structure, if the tumor requires multiple, sequential ablations, only a first partial area of the tumor that is treated by the ablation is marked, and then at least one subsequent treatment on the tumor based on the marked area of the tumor.

By contrast, it is respectfully submitted that Rittman merely discloses using contrast agents to visualize the tumor after ablation. And it is respectfully submitted that Rittman does not disclose, teach or suggest marking only a first partial area of the tumor that is treated by the (first ablation) and then performing a subsequent ablation based on the marked area, as according to the present invention as recited in clarified amended claim 16.

Still further, it is respectfully pointed out that according to the present invention as recited in claim 18 and clarified amended claim 19, each instrument used to perform the ablation is provided with a different signature that is visible during imaging performed during the ablation, and each instrument is provided with the respective signature thereof in multiple signature types such that the same signature is visible using multiple imaging modalities. With this structure, a user placing multiple probes in a patient, for instance, is able to differentiate the probes using CT imaging because they have different signatures. For example, if 2 identical metallic probes are used in a patient for overlapping cryoablation treatments, conventionally the two probes appear identical on the CT scan, and it is sometimes not possible to identify which probe to move. However, if the probes are provided with signatures in the manner recited in claims 18 and 19, then it would be possible to distinguish them on the CT scan.

By contrast, it is respectfully submitted that Rittman merely discloses visualizing instruments using, for example, CT imaging, but that Rittman does not at all disclose, teach or suggest providing each instrument with a different signature that is visible during imaging, as according to the present invention as recited in claims 18 and 19.

Gough, moreover, has merely been cited for the disclosure of a plurality of ablation wires, and Chin has merely been cited for the disclosure of a fan retractor. And it is respectfully submitted that neither of these references discloses, teaches or suggests the above described structural features and advantageous effects of the claimed present invention.

In view of the foregoing, it is respectfully submitted that amended independent claim 1 and claims 2-19 depending therefrom clearly patentably distinguish over Rittman, taken singly or in combination with any of the other cited references, under 35 USC 102 as well as under 35 USC 103.

* * * * *

Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned for prompt action.

Respectfully submitted,



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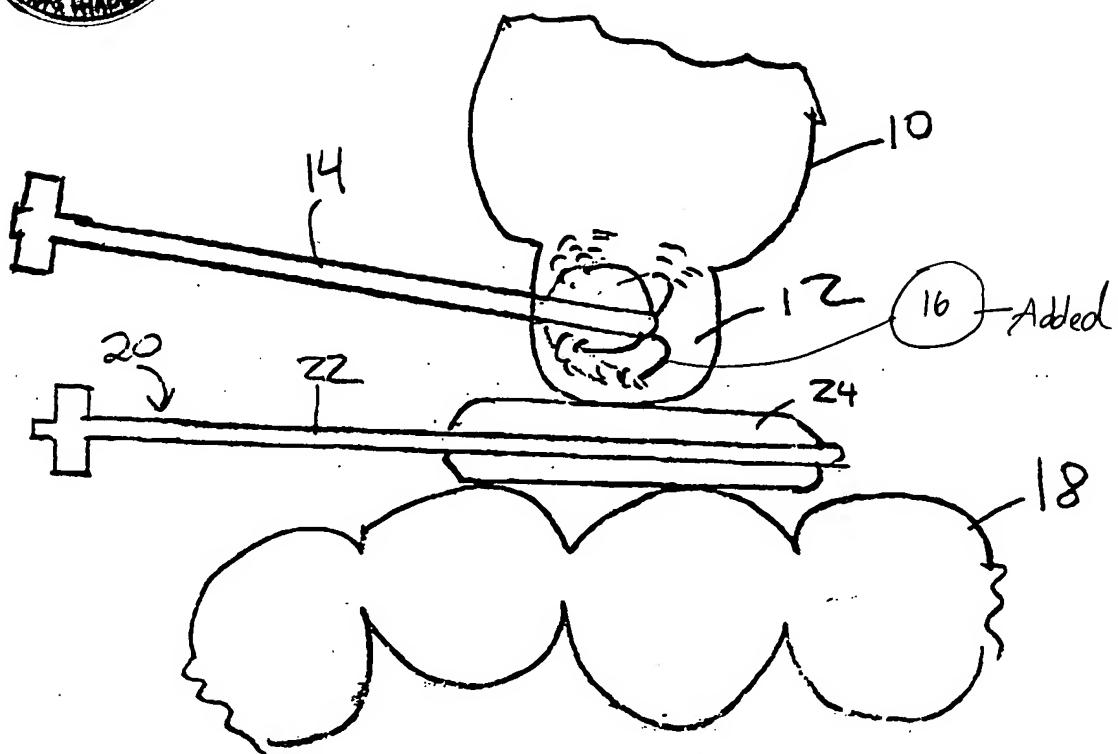


FIG. 1

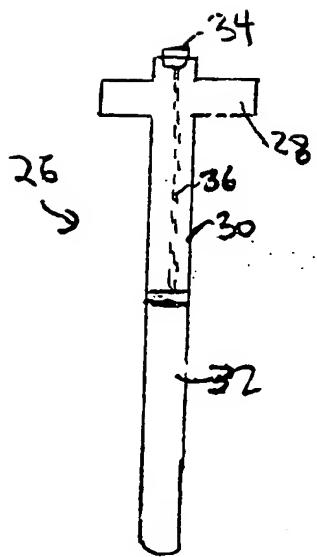


FIG. 2

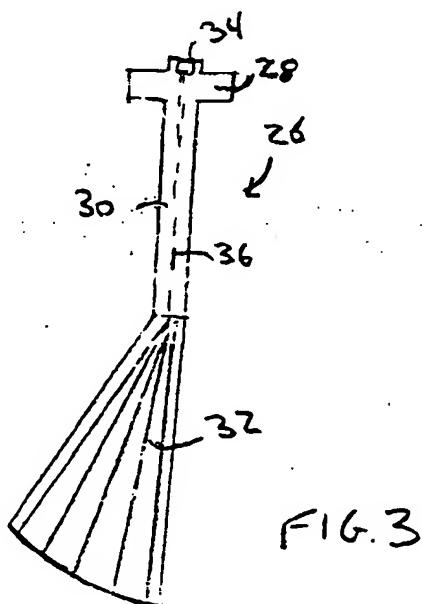


FIG. 3

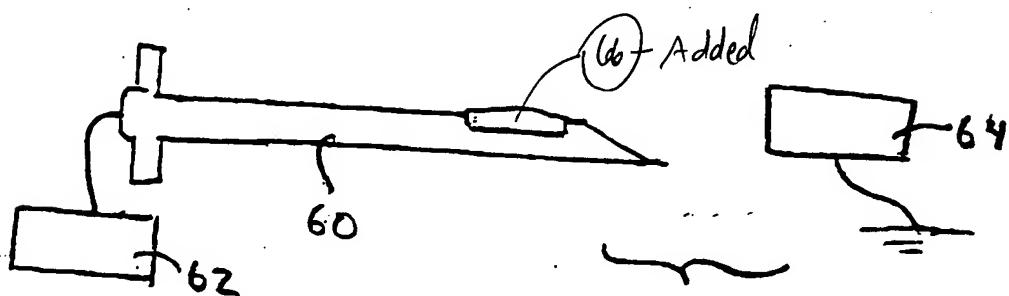
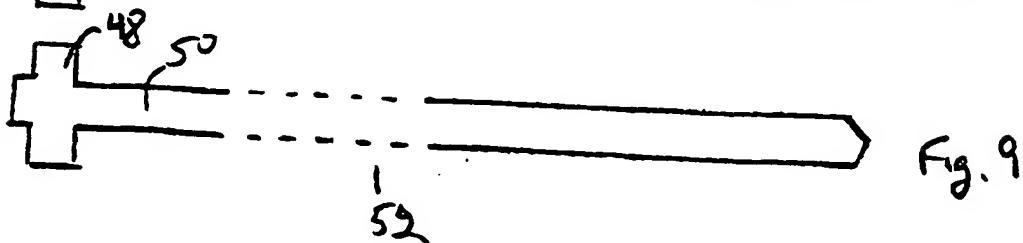
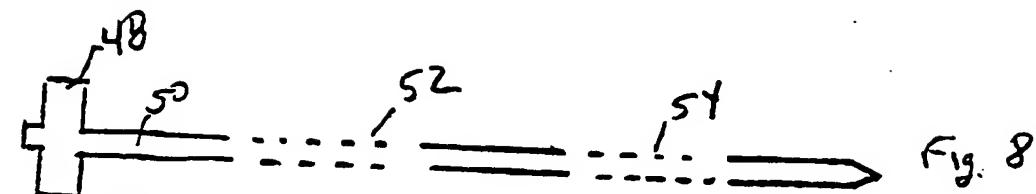


FIG. 10

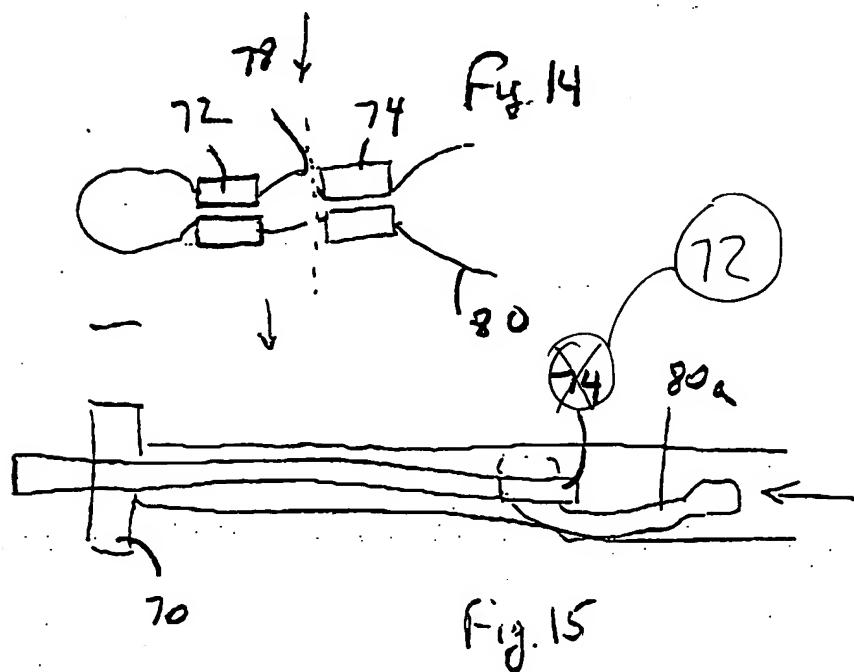
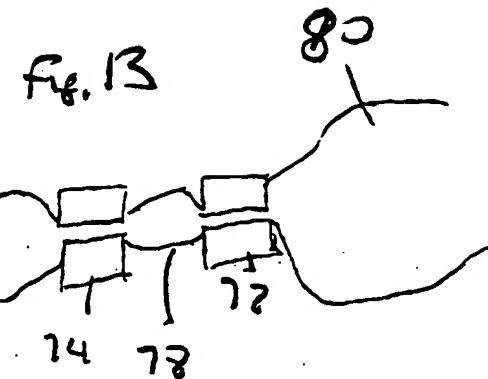
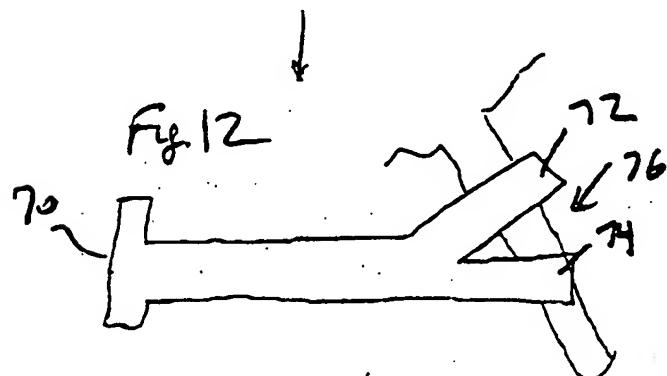
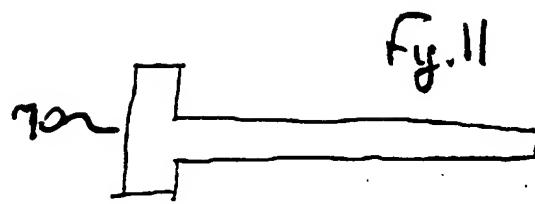


Fig. 15